

GEDM. CONSTR. RESP#6

1. WE ARE GIVEN INFO ON
COORDINATES OF TWO POINTS
 $x_1 = -2$; $y_1 = 5$; $x_2 = 4$, $y_2 = 7$

2. WE HAVE TO COME UP
WITH SLOPE-INTERCEPT EQUATION
 $y = mx + b$. m -SCOPE, b -INTERCEPT
AND ALSO EQUATION OF A LINE IN A
STANDARD FORM $AX + BY = C$

$$3. \ y = \underline{\underline{m}}x + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7 - 5}{4 - -2} = \frac{2}{4 + 2} = \frac{2}{6} = \frac{1}{3}$$

WE WILL PLUG IN VALUE FOR
m in the equation

$$y = \frac{1}{3}x + b$$

WE ARE GOING TO USE
COORDINATES FOR
THE SECOND POINT AS
X AND Y

$$7 = \frac{1}{3} \cdot 4 + b$$

$$4 \div 3 = \frac{1}{3}$$

$$7 = \frac{4}{3} + b$$

$$7 = \frac{1}{3} + b$$

$$-\frac{1}{3} \quad -\frac{1}{3}$$

$$7 = 1\frac{1}{3} + 6$$
$$-1\frac{1}{3} - 1\frac{1}{3}$$

$$7 - 1\frac{1}{3} = 6$$

$$6 - \frac{1}{3} = 6$$

$$5\frac{2}{3} = 6$$

$$y = \frac{1}{3}x + 5\frac{2}{3}$$

$$y = \frac{1}{3}x + 5\frac{2}{3}$$

$$y = \frac{1}{3}x + \frac{17}{3}$$

$$\begin{matrix} -\frac{1}{3}x & y & -\frac{1}{3}x \\ \textcircled{1} & \textcircled{2} & \end{matrix} \quad AX + BY = C$$

$$-\frac{1}{3}x + y = \frac{17}{3}$$

multiply(-3)

$$\begin{aligned} (-3)\left(-\frac{1}{3}\right)x - 3y &= \overset{(-3)}{\cancel{\frac{17}{3}}} \\ x - 3y &= -17 \end{aligned}$$

$$(-\cancel{3})\left(-\frac{1}{\cancel{3}}\right)x + y(-3) = \frac{17}{\cancel{3}}(-\cancel{3})$$

$$x - 3y = -17$$

$$\textcircled{4} \quad y = \frac{1}{3}x + 5\frac{2}{3}$$

SLOPE-INTERCEPT FORM

$$x - 3y = -17 \quad \text{STANDARD FORM}$$